

Orbital order parameter in $\text{La}_{0.95}\text{Sr}_{0.05}\text{MnO}_3$ probed by electron spin resonance

Deisenhofer J., Kochelaev B., Shilova E., Balbashov A., Loidl A., Krug Von Nidda H.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The temperature dependence of the electron-spin resonance in $\text{La}_{0.95}\text{Sr}_{0.05}\text{MnO}_3$ has been investigated and analyzed in the paramagnetic regime across the orbital ordering transition. From the temperature dependence and the anisotropy of linewidth and g value the orbital order can be unambiguously determined via the mixing angle of the wave functions of the eg doublet. The linewidth shows a similar evolution with temperature as resonant x-ray scattering results.
